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A' - [001] 011 04- 080 139 180 185 189 38& 446 681

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KS - 0231 1276 1517 1737 2488 2836

MC - A11-B09B A12-A04B F05-A07

PA - (EIDA ) EIDAI CO LTD

PN - JP55164142 A 19801220 DW198109 000pp

PR - JP19790071968 19790607

XIC - B29J-005/00

AB - J55164142 Chipped wood is bleached with a bleaching agent (e.g. Cl2, hypochlorites, Na chlorite, ClO2, H2O2 or Na2O2) and then dyed with a colorant (e.g. direct dyes, acidic dyes, oleophilic dyes, alcohol-soluble dyes or micropowdery pigments) to the inner portions thereof.

- The dyed chips are then coated with an adhesive and arranged on the surfaces in direct contact with the mould members. The bleached chips for the surface layers and chips for core layer are sandwiched between the dyed chip layers and pressed to provide colored particle boards.
- The dirty abraded surface of the dyed particle board can be sanded to provide the fresh dyed and patterned surface. Suitably melamine resin is used as binder.

AW - MELAMINE

AKW - MELAMINE

IW - COLOUR PARTICLE BOARD PRODUCE LAMINATE LAYER DYE PARTICLE BLEACH PARTICLE LAYER RESIN BIND

IKW - COLOUR PARTICLE BOARD PRODUCE LAMINATE LAYER DYE PARTICLE BLEACH PARTICLE LAYER RESIN BIND

NC - 001

OPD - 1979-06-07

ORD - 1980-12-20

PAW - (EIDA ) EIDAI CO LTD

TI - Coloured particle board prodn. - by laminating layers of dyed particles with bleached particle layers using resin binder

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55-164142

Number of inventions	1
Request for examination	not yet requested

(54) Method for making colored particleboard

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# 1. Title of the Invention

5 Method for making colored particleboard

## 2. Claims

Method for making colored particleboard, wherein wood chips are bleached, then colored to the inside of the wood chips with a coloring agent, and then coated with an adhesive, laminated in the form of a mat such that at least the colored wood chips come in the surface layer, and hot pressed.

### 3. Detailed description of the invention

The present invention relates to a method for making colored particleboard, wherein wood chips are bleached, then colored to the inside of the wood chips with a coloring agent, and then coated with an adhesive, laminated in the form of a mat such that at least the colored wood chips come in the surface layer, and hot pressed; and the object thereof is to offer colored particleboard with which there is no worry about the disappearance of the color or design even when the surface is sanded because of surface wear or surface soiling or the like.

Prior colored particleboard formed by painting the surface of particleboard is well known. However, such particleboard obtained by painting has the drawback that when the surface wears the paint peels.

In order to eliminate the aforementioned drawback, the present inventor considered coloring the wood chips which constitute the starting material of the particleboard, bonding them in the form of a mat and hot pressing so that the particleboard is colored inside and not merely on the surface; however, they were unable to obtain completely satisfactory colored particleboard by this method.

As the result of further studies, the present inventor discovered that by first bleaching the wood chips with a bleaching agent and then coloring the wood chips by using a coloring agent, substantially satisfactory coloring into the inside of the wood chips is possible, and perfected the present invention.

The present invention is described in detail below.

Firstly, the wood chips to be colored are bleached using a bleaching agent. A bleaching agent such as chlorine, a hypochlorite, sodium chlorite, chlorine dioxide, hydrogen peroxide or sodium peroxide can be employed. The reason for bleaching is to enable the complete permeation of the coloring agent into the wood chips when they are subsequently immersed in the coloring agent. The bleached wood chips are then colored

to the inside thereof. As the coloring agent a dye such as a direct dye, acidic dye, oil-soluble dye or alcohol-soluble dye, or a fine particulate pigment, can be used. After drying, the colored wood chips thus obtained are  
5 spray coated with an adhesive and laminated in the form of a mat; the colored wood chips can be used for the entire mat, or the colored wood chips can be used only for the surface (decorative surface side), with ordinary wood chips being used for the inside and/or the surface  
10 which is not the decorative surface. After laminating in the form of a mat, particleboard with a colored surface can be obtained by the same process as for producing ordinary particleboard, by hot pressing at a temperature of 140-200°C and pressure of 15-25 kg/cm<sup>2</sup> for 5-10  
15 minutes.

By employing a mixture of wood chips of several colors, particleboard can be obtained which has various colors.

By means of the aforementioned constitution, the  
20 present invention has the advantage that there is no fear that the color or pattern, etc., will be lost even if the surface is sanded due to surface wear or surface soiling. It also has the advantage that there is no need for complicated operations to recolor parts that have  
25 been removed from the surface.

#### **[Embodiment]**

Wood chips for the surface layer and wood chips for the inside layers were made from waste rowan plywood.  
30 The wood chips used for the surface layer were passed through a screen 1 mm x 1 mm, and the wood chips used for the inside layers were passed through a 5 mm x 5 mm screen.

Wood chips for the surface layer were then immersed  
35 for 30 minutes in a 2% sodium chlorite aqueous solution containing a small quantity of acetic acid, at 70°C, and then rinsed, followed by immersion for 20 minutes in an aqueous solution of Direct Blue 2B and then drying. Then the uncolored wood chips for the surface layer, the wood

chips for the inside layers and the colored wood chips for the surface layer were coated with a urea-melamine resin adhesive, laminated in this order, and hot pressed at a temperature of 160°C and pressure of 20 kg/cm<sup>2</sup> for 6 minutes, to obtain particle board 20 mm thick having a blue colored surface.

Applicant: Eidai Co., Ltd.